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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,720	09/17/2003	Jason H. Culler	200206865-1	4375

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HEWLETT-PACKARD COMPANY
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EXAMINER

CHANG, JOSEPH

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

11A

Office Action Summary

Application No.

10/664,720

Applicant(s)

CULLER, JASON H.

Examiner

Joseph Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 6-20, 22, 25, and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 21, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 4-5 is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-5, 21, 23 and 24 in the reply filed on 4/7/05 is acknowledged.

Claims 6-20, 22, 25, and 26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/7/05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghoshal, US Patent No. 5,068,628.

Regarding claim 24, Ghoshal discloses in Fig. 1-9 a variable oscillator circuit (Fig. 1) on a semiconductor device (it is inherent that the circuit is on a semiconductor device), comprising; a means for producing (16, Fig. 2) a variable frequency-oscillating wherein the frequency is varied based on a delay selection signal; a means for analyzing (18 and 20) the frequency of the variable frequency-oscillation signal and converting the analysis results to an encoded actual frequency signal; a means for comparing (10) the encoded actual frequency signal to an encoded desired frequency input and generating a frequency deviation result;

Regarding claims 21 and 23, as discussed above, Figures 1-9 shows variable oscillator circuit, which would necessarily perform the method recited in the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghoshal, US Patent No. 5,068,628 in view of Nakajima et al. US Patent No. 6,114,917.

Regarding claim 1, Ghoshal discloses in Fig. 1-9 a variable oscillator circuit (Fig. 1) on a semiconductor device as discussed above (a ring oscillator (16); a frequency analyzer (18, 20); a frequency comparator (10); a frequency modifier (12, 14)). However, Ghoshal does not explicitly disclose an arrangement of a ring oscillator as recited in the claim, i.e., the base delay stage and the variable delay stage connect in a ring having an odd number of logical inversions.

As would have been well known in the art, such an arrangement of ring oscillator is a typical arrangement that the ring oscillator can be enable or disable based on the base delay stage, for example, Nakajima et al. shows in Fig.6 a base delay stage, a NAND gate 14 and also shows an odd number logical inversion.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the base delay stage as taught by Nakajima et al.

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because such a modification would have advantageously provided a controlling capability such as enabling or disabling the ring oscillator of Ghoshal.

Regarding claim 2, Fig. 2 shows a plurality of delay elements (70) and a delay selector (78).

Regarding claim 3, Fig 3A shows a buffer element (output stage), a plurality of load elements (capacitor), and Fig. 2 shows a load selector (78).

Allowable Subject Matter

Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the best prior art of record, Ghoshal, taken alone or in combination of other references, does not teach or fairly suggest a clock divider (Claim 4), or an actual frequency encoder (claim 5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US006803826B2 discloses a delay locked loop including a ring oscillator.

US005517155A discloses a digitally controlled PLL with a variable frequency oscillator.

US006542040B1 discloses a PLL having a programmable tapped delay line oscillator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Chang
Patent Examiner
Art Unit 2817